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REMARKS

Examiner Cumberledge is respectfully requested to reconsider his final Office Action in this case. It is believed that the finality should be withdrawn because a new ground of rejection has been offered, or at least there is ambiguity in the Office Action as to what grounds for rejection are used. Further, as noted below, the relied-on references do not show or suggest all elements of the claims, nor can they be combined as the Office Action asserts.

Initially, claims 1, 12-18, 21, and 22 were explicitly stated to be rejected under section 103(a) over the Assaker reference, although part of section 102 was quoted in the Office Action. These claims were rejected under section 102 in the previous Action, and at least one claim was not amended so as to require a new ground for rejection. At the least, there is enough ambiguity as to the ground for rejection that, in fairness, the finality of this action should be withdrawn.

Respectfully, the Assaker reference does not show or suggest all of the elements of at least independent claims 1 and 13, and therefore this rejection should be withdrawn. Independent claims 1 and 13 were previously amended to include "a solid shaft". The Assaker reference (column 6, lines 13-15 and 23-24) discloses a tubular rod 25 and a second rod 35 which can be tubular or solid. In other words, only secondary rod 35 is suggested as being solid in Assaker. That difference is important to Assaker because its tubular rod 25 is permanently deformed (column 5, lines 63-67) during a surgical procedure, which deformation Assaker asserts as an advantage over prior art (column 6, lines 40-45). Therefore, Assaker does not disclose a solid rod 25, and in fact specifically indicates the advantage of not being solid. For at least these reasons independent claims 1 and 13 and their dependent claims are not anticipated or rendered obvious by Assaker. It does not show a solid shaft 25, and making hollow shaft 25 solid goes against Assaker's teachings fundamentally changes its operation.

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The Assaker reference does not show or suggest all of the elements of independent claim 22 as well. Independent claim 22 recites, among other things, that "the internal surface curves continuously both in a first direction from the shaft to the second end and in a direction oblique to the first direction". The Office Action asserts that the first curve is the curve between the shaft and the end of the hook, the curve that forms the "hook". The Office Action also asserts reference 21 is used to refer to the second of the two curves. As one can see from Fig. 10, these curves are not continuous from the shaft (which for argument's sake could be reference 18) to the second end (which for argument's sake could be the end of hook 22). Moreover, Assaker notes that that non-continuous curvature of its FIGS. 9-11 "has the same advantages as concerns safety as the arrangement of the upper hook shown in FIGS. 6 to 8." The first paragraph of column 5 of Assaker explains that that non-continuous curvature is valuable in its two-point bearing on a lamina, which is an improvement in terms of clearance over "a solely circular" bearing section (column 5, lines 10-11). Therefore, Assaker does not disclose a continuously curved internal surface as recited in claim 22, and it explicitly teaches away from an example of a continuously curved surface. For at least these reasons independent claim 22 and its dependent claims are not anticipated or rendered obvious by Assaker.

Claims 1-30 were "rejected under 35 U.S.C. 103(a) as being unpatentable over Jackson (US Pat. 5,980,523) in view of Assaker (US Pat. 5,620,444)." Examiner Cumberledge is respectfully asked to reconsider whether the disclosures of the Jackson and Assaker references and conclude that they are not properly combinable against these claims.

In responding to prior remarks, the Examiner notes that Assaker shows "a device [used] as both a spinal rod connector . . . and using the same device to directly grasp a vertebra." The disclosure surrounding Assaker's Figure 17 is not in enough depth to call it the "same device" as

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in Assaker's Figure 1. However, even assuming that premise to be true, with due respect it is not good logic to expand that particular example to the general theorem that all devices that can connect rods can also grasp a vertebra. This is especially true with the current example, in which the Jackson device is disclosed to have its hook ends behind the elongated structures between them. The Jackson disclosure could not be used in the same way as the Assaker structure in its Figure 1 because of the clearance issue defined in the Assaker reference (column 5, first paragraph). With the elongated structure of Jackson ahead of the end hooks, those hooks could not be placed on vertebrae because the elongated structure would contact other spinal bone in the middle, keeping one or both hooks away from their supposed placements. That configuration provide a sought "low profile" for the device (see Jackson, column 11, lines 24-33). Assaker, on the other hand, shows the hooks well in front of the structure between them (a "high profile"), and thus can be used to link laminae. These differences contradict the logic used to bring the Jackson and Assaker references together.

Jackson teaches a rod receiving groove 23 sized to receive a spinal rod extends into a hooked end 11 (Fig. 5, column 4, lines 49-50). The rod fits snugly into the associated groove 23 such that the radius of the groove 23 is perpendicular to the axis of the rod (column 4, lines 51-54). A set screw 20 is advanced through the threaded bore 27 such that the lower threaded portion 22 engages the spinal rod and biases the rod to the opposite side of the groove 23 and into engagement with an inner surface of the hooked end 11 to secure the spinal rod within the groove 23. As the Office Action states, Jackson does not disclose first and/or second hooks having a ridge or an internal surface having a second curve. Moreover, first and/or second hooks having a ridge or an internal surface having a second curve would interfere with the operation of Jackson. For example, if the second internal surface (as asserted in Fig. 5 of the Office Action)

was modified to include a ridge or an internal surface having a second curve then the lower threaded portion 22 of the set screw 20 would not necessarily engage the spinal rod properly. Making the internal surface less deep would reduce the effectiveness of the locking set screw, and in fact the tightening of the set screw could force the rod out of that shallow surface. The set screw would not necessarily bias the spinal rod to the opposite side of the groove 23 and into engagement with an inner surface of the hooked end 11 (column 4, lines 60-67). Further, a ridge in the ends of the Jackson device would result in uncertainty as to the orientation of the rod with respect to the connector. The cylindrical inside of Jackson's hooks ensures that a rod within it is oriented in one and only one direction with respect to the hook. A ridge would allow the rod to pivot or assume any of a number of directions, making Jackson's connection less secure and more difficult to use.

Jackson also teaches away from a combination with Assaker as proposed in the Office Action. Jackson discloses the objects and advantages of the invention include "providing a system in which the configuration or orientation of the connection system is initially infinitely moveable [*sic*, with] parts variable...by adjustment and movement of without requiring actual physical bending of the rods to make adjustments to accommodate variations in divergence..." (column 2, line 64-column 3, line 3) Assaker teaches "the surgeon exerts on the tubular portion 7...sufficient pressure to produce a permanent deformation of the walls of the tubular portions 6 and 7...It will be understood that after such a deformation, the two tubular portions 6, 7 are finally clamped against a relative translation and rotation..." (column 4, lines 30-40) Consequently, since Jackson teaches no deformation and Assaker requires deformation, Jackson teaches away from a combination with Assaker, and it is thus clear that this obviousness rejection should accordingly be withdrawn.

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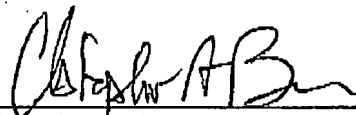
Claims 1, 13, and 22 were provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 1 of copending Application No. 10/695,067 "in view of Assaker (US Pat. 5,620,444)." Respectfully, the provisions of MPEP 804 do not appear to authorize or provide any example of reliance on a secondary reference for a double patenting rejection. A double patenting rejection considers the claims of the two applications, while this rejection sound more like a rejection under Section 103. In any event, for the reasons given above one of ordinary skill would not view the Assaker reference with respect to other references as suggested by the Office Action. If necessary, a proper terminal disclaimer may be filed in future. Applicant does not concede the basis of the provisional double patenting rejection, and reserves the right to address it further later in prosecution of this case.

It should be understood that the above remarks are not intended to provide an exhaustive basis for patentability or concede the basis for the rejections in the Office Action, but are simply provided to overcome the rejections made in the Office Action in the most expedient fashion.

In view of the above amendments and remarks, it is submitted that the present application is now in condition for allowance, and the Examiner is requested to pass the case to issue. If the Examiner should have any comments or suggestions to help speed the prosecution of this application, the Examiner is requested to contact the undersigned representative by telephone.

Respectfully submitted,

By



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